

Commodore Single Disk Drive

Technical Manual

Model 1540/1541



commodore
COMPUTER

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Chapter One

1.1 Scope

In this chapter, a description is made of the procedures necessary for servicing the Model 1540/1541 Floppy Disk Drive.

1.2 Unpacking

Special care should be exercised during unpacking not to damage the unit.

Unpacking procedures are as follows:

- a) Remove cardboard sleeve from styro-foam box
- b) Open 'styro-foam' box and remove drive
- c) Check the drives front door for proper operation

```
*****
*                                     *
*           Caution                 *
*                                     *
*   Do Not Use Magnetized Tools   *
*                                     *
*****
```

1.3 Protection against noise

A weak signal from the media is detected in the head section of the drive. Hence, do not install the drive near a TV set or other areas where electromagnetic noise is generated. (i.e. motors, air-conditioners, etc)

1.7 Input/Output Cable

The length of the cable between the host and the drive (between the host and the last drive when the drives are daisy chained) should not exceed 5 meters (16 feet).

1.8 DC power source

The drive is powered by a internal power supply providing the drive with +12V and +5V.

1.9 Initial inspection

The drive can be briefly inspected for its operation by the following procedure. Install the drive, connect the power and I/O cables. Turn drive on and make sure the front panel power lamp is on. Proceed to step 2.2.

1.10 Outline of functions

The 1540/1541 Minifloppy Disk Drive mechanism is composed of the data read/write head, track positioning mechanism, spindle drive mechanism and eject mechanism.

1.11 Read/Write Head

The Read/Write head uses a glass-bonded, ferrite/ceramic head. Track-to-track erasing is accomplished by the straddle erase method. The surface of the Read/Write head is mirror-ground to minimize wear of the head and media. Also, the head is designed in such a way that the maximum signal can be obtained from the media surface.

1.12 Track positioning mechanism

Positioning of the Read/Write Head is accomplished by a stepping motor and steel belt. The stepping motor rotates clockwise or counter-clockwise by two steps per track. The control circuit on the logic board selects the direction and number of step to the desired track.

1.13 Spindle drive mechanism

The spindle drive motor operates on 12 VDC and turns the spindle, through a belt drive, at 300 revolutions per minute. The speed of the drive motor is controlled by a feedback signal from a tachometer which is housed in the drive motor assembly. The feedback signal controls a servo amp that supplies the 12 VDC drive current.

1.14 Eject mechanism

When the media is inserted in the Disk Drive and the door is closed the media is clamped by the spindle and hub. At this time the ejector mechanism is loaded by the insertion of the disk and locked. When the door is opened, the ejector mechanism is unlocked and the media pops out of the door.

2.1 Mechanism Explanation

The 1540/1541 mechanism is installed in the system horizontally, however the drive will function if mounted vertically. The mechanical parts of the drive include an aluminum chassis, a stepping motor, head positioning assembly, drive motor, a hub and spindle assembly for centering and retaining the media during operation. The magnetic head is of a glass ceramic construction.

2.2 Function explanation

The drive is itself an independent memory device. The drive is composed of a media clamp rotating mechanism, ahead positioning mechanism and an eject mechanism. When the front door opens, the media can be inserted. All positioning operation excluding insertion and removal of the media are controlled by the internal guide mechanism. Closing the front door causes the media clamp mechanism to operate. Two operations are performed in the following order:

- a) The media is centered.
- b) The media is clamped and retained between the spindle and the hub.

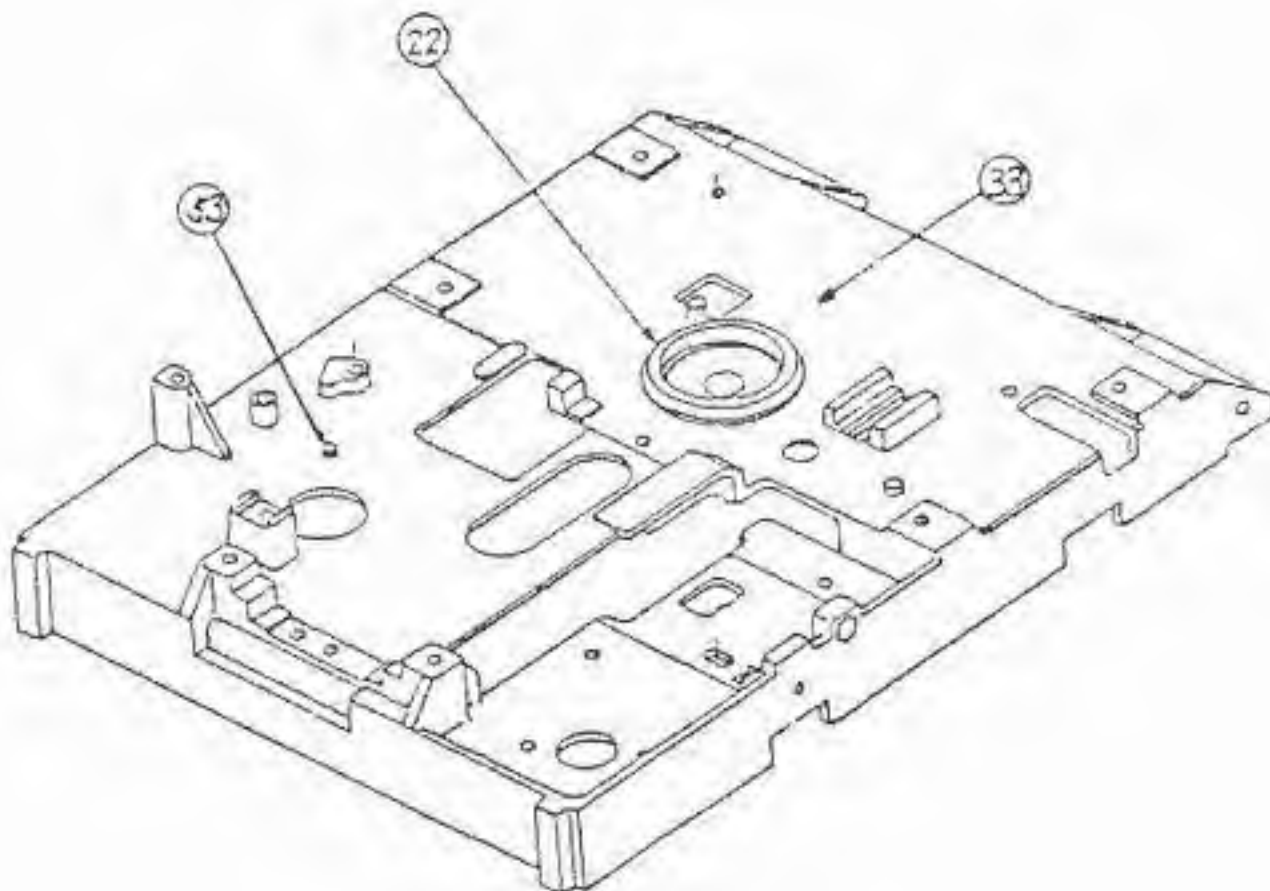
The spindle and hub rotate at 300 r.p.m. through a closed-loop control circuit employing a D.C. motor/tachometer. It is important that the relationship between the head and the media is maintained correctly during operation. For this purpose, a pressure pad is used to hold and press down the media (about 12g) from the opposite side of the head, to maintain the correct contact with the head. This head assembly is coupled by a metal band to a four phase stepping motor the performs the track positioning. One step of the stepping motor corresponds to a 1/2 track movement. Use of a high-speed stepping motor and metal band drive, this series of disk drives can perform access operations at a very high speed.

2.3 Assembly Procedure

- 2.3.1 The housing assembly; install the eject pin and the spindle.
- 2.3.2 The housing assembly; on the reverse side install the spindle pulley.

2.3.3 FIG 1, The housing unit.

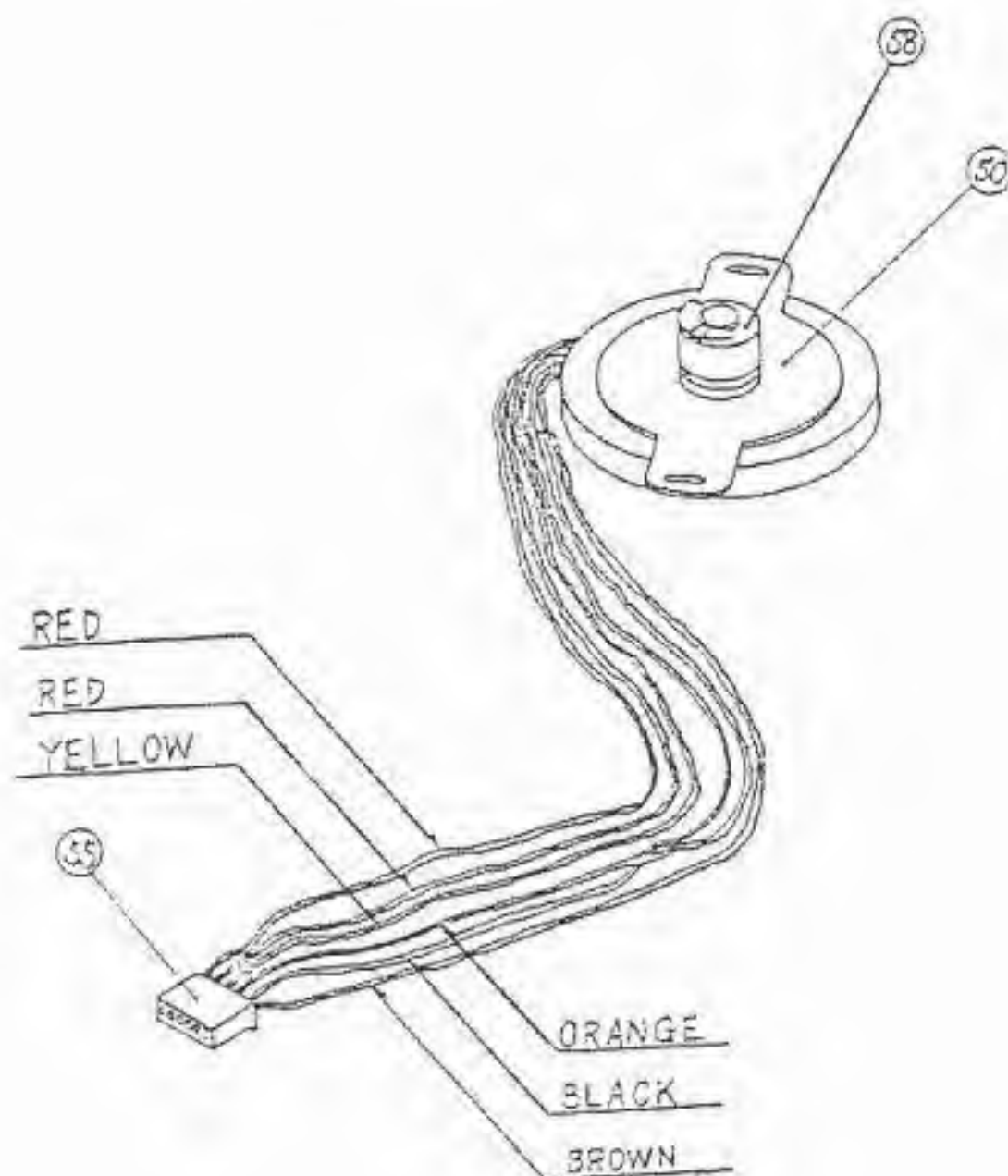
Part	Description
22	spindle
33	housing assembly.
53	eject pin



2.3.4 The stepping motor assembly; install the stepping pulley.

2.3.5 FIG 2, The stepping motor unit

Part	Description
50	stepping motor assembly
55	connector housing
58	stepper pulley



2.3.6 The D.C. motor assembly; install the motor pulley.

2.3.7 FIG 3, D.C. motor and control PCB

Part	Description
44	motor control PCB
48	D.C. motor
51	connector housing
59	D.C. motor pulley

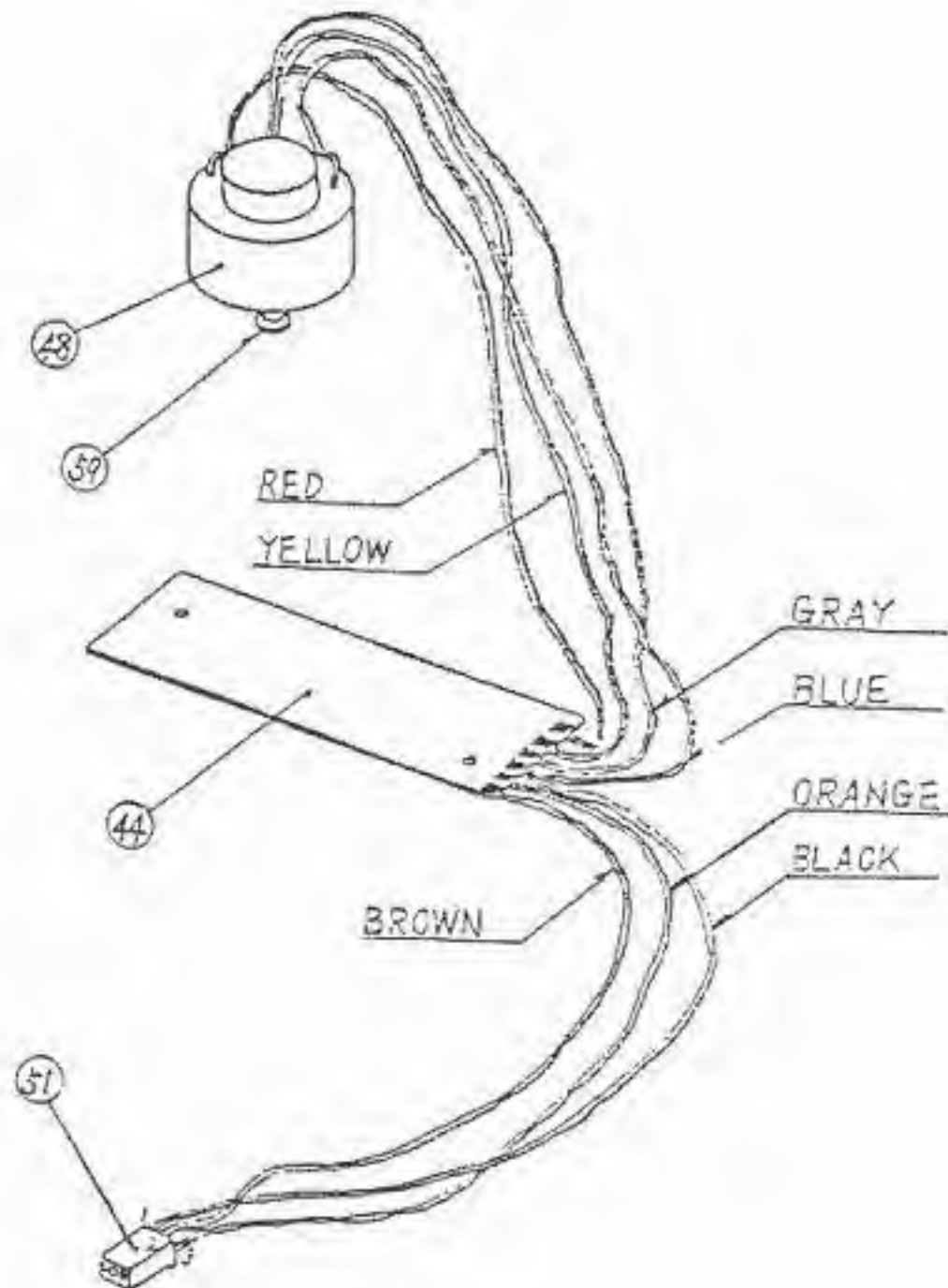


FIG. 6

Part	Description	Part	Description
20	binder screw	37	washer
21	diskette guide	38	eject spring
28	LED clamp	39	eject plate
29	front panel	40	slider
30	Flush screw	43	diskette guide
31	LED assembly	52	connector housing
32	LED holder ring		

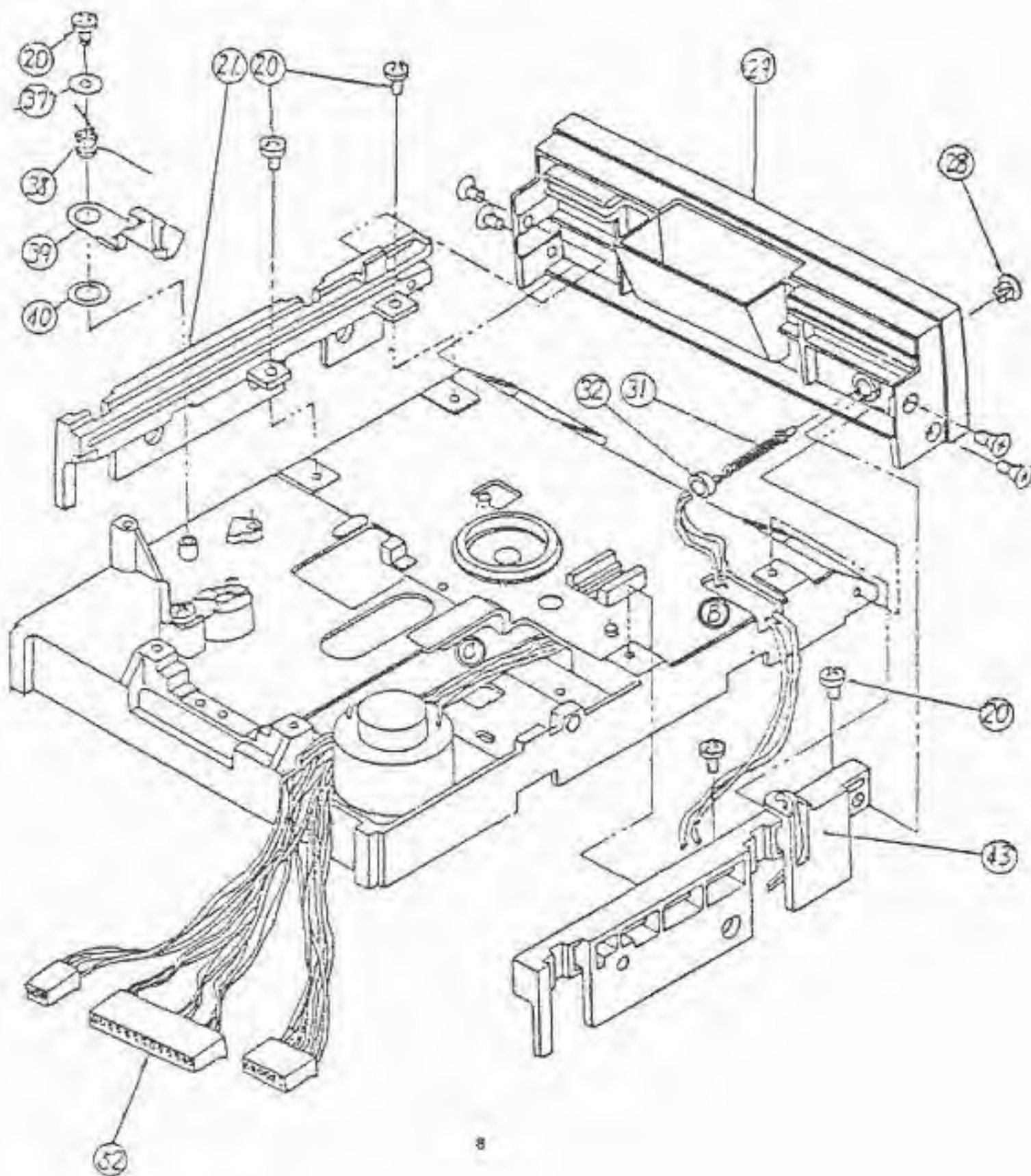


FIG 7.

Part	Description
15	binder screw
18	binder screw
24	tension pulley
25	guide shaft keeper
26	guide shaft
34	metal band
35	washer
36	head assembly
56	tension spring

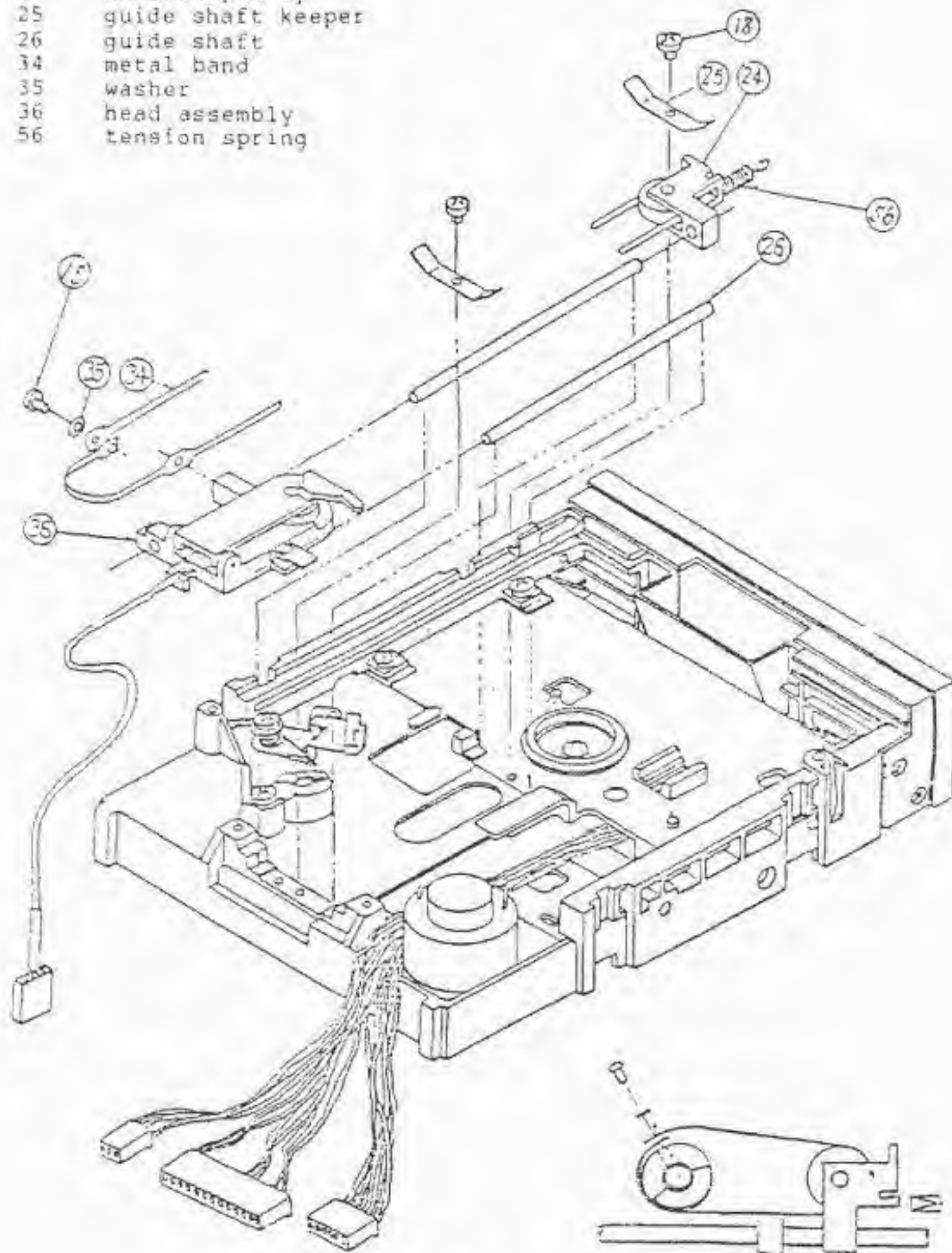
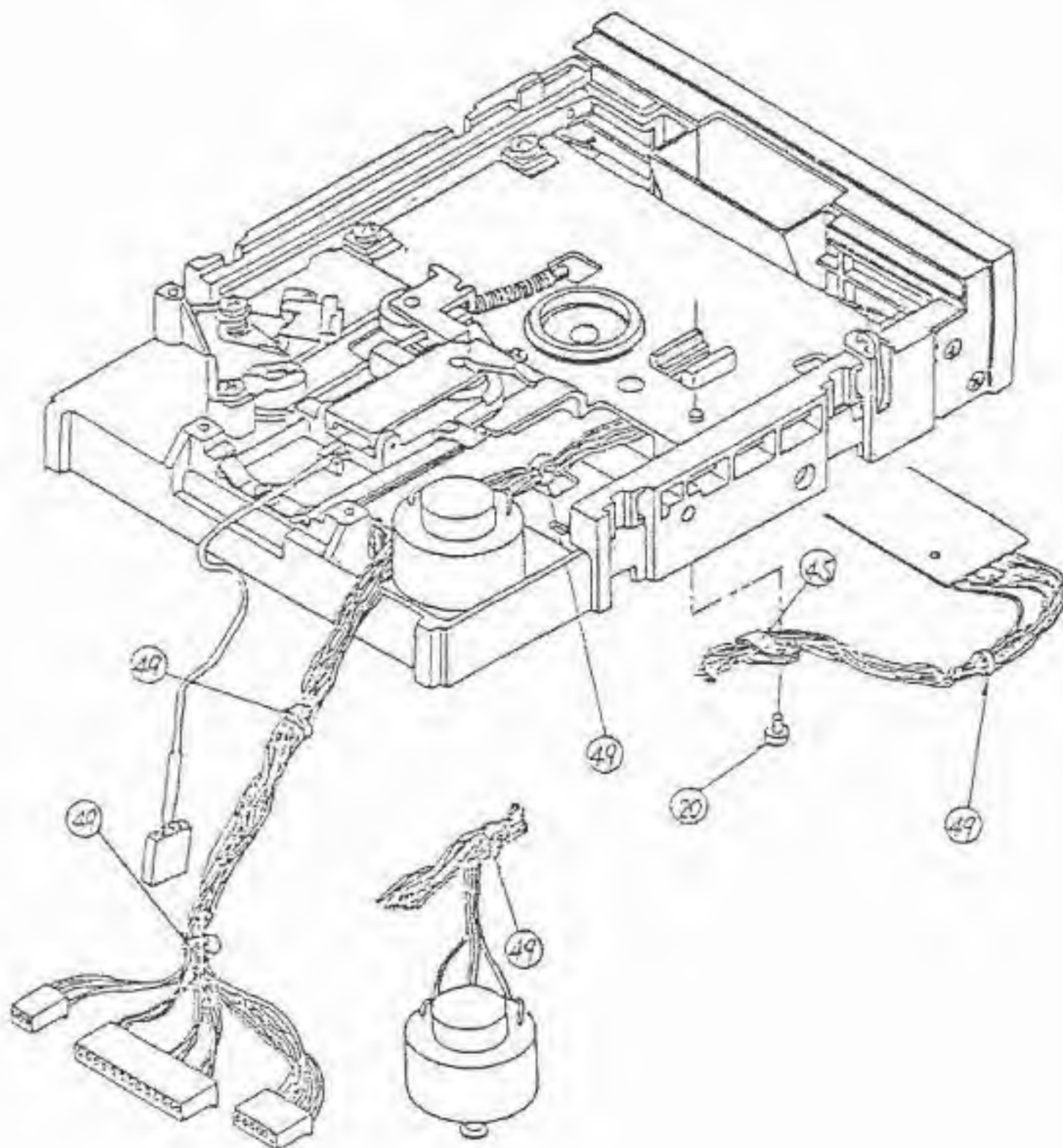


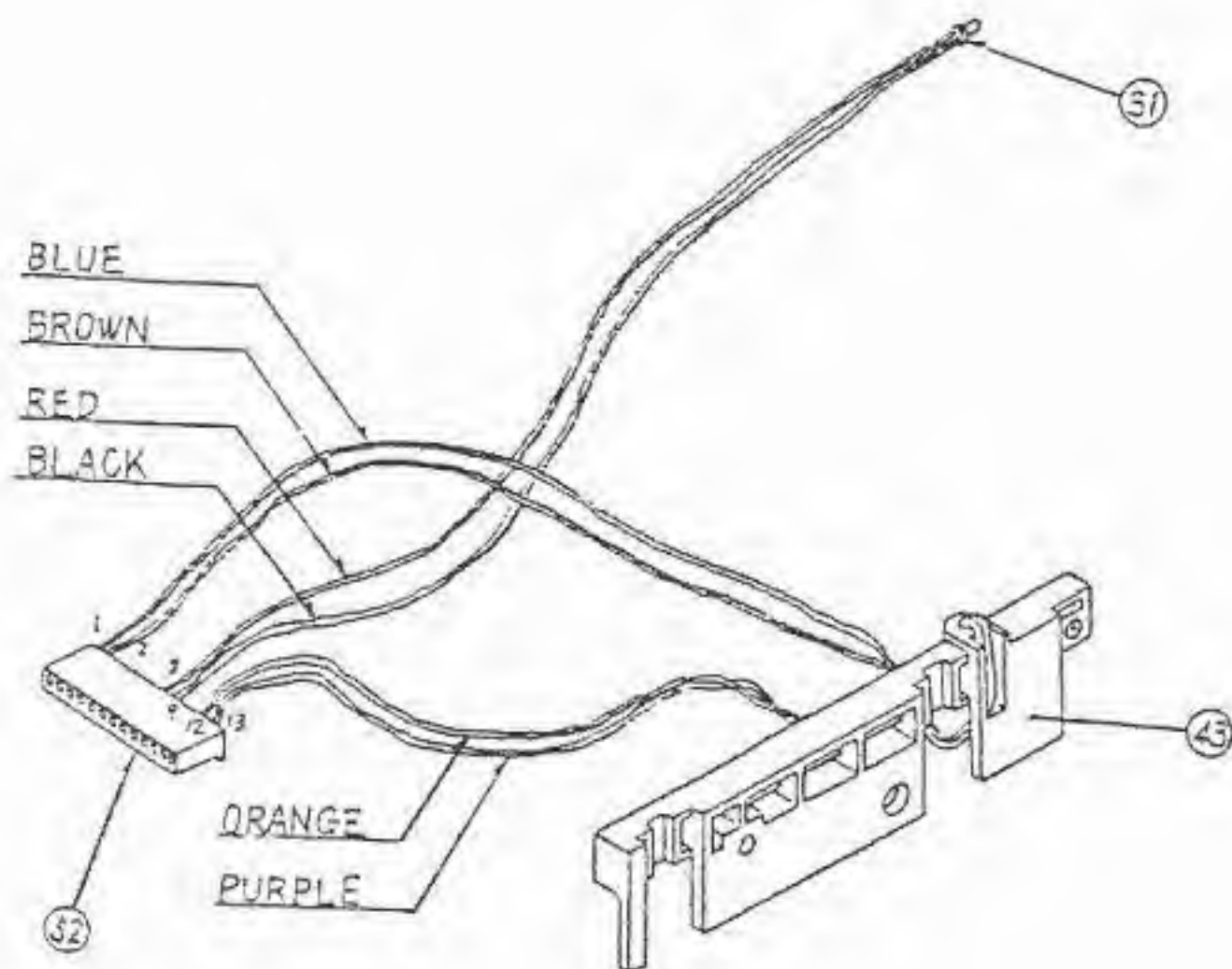
FIG 8

Part	Description
20	binder screw
45	cable clamp
49	cable ties



2.3.8 FIG. 4, Diskette guide, LED assembly and connector housing.

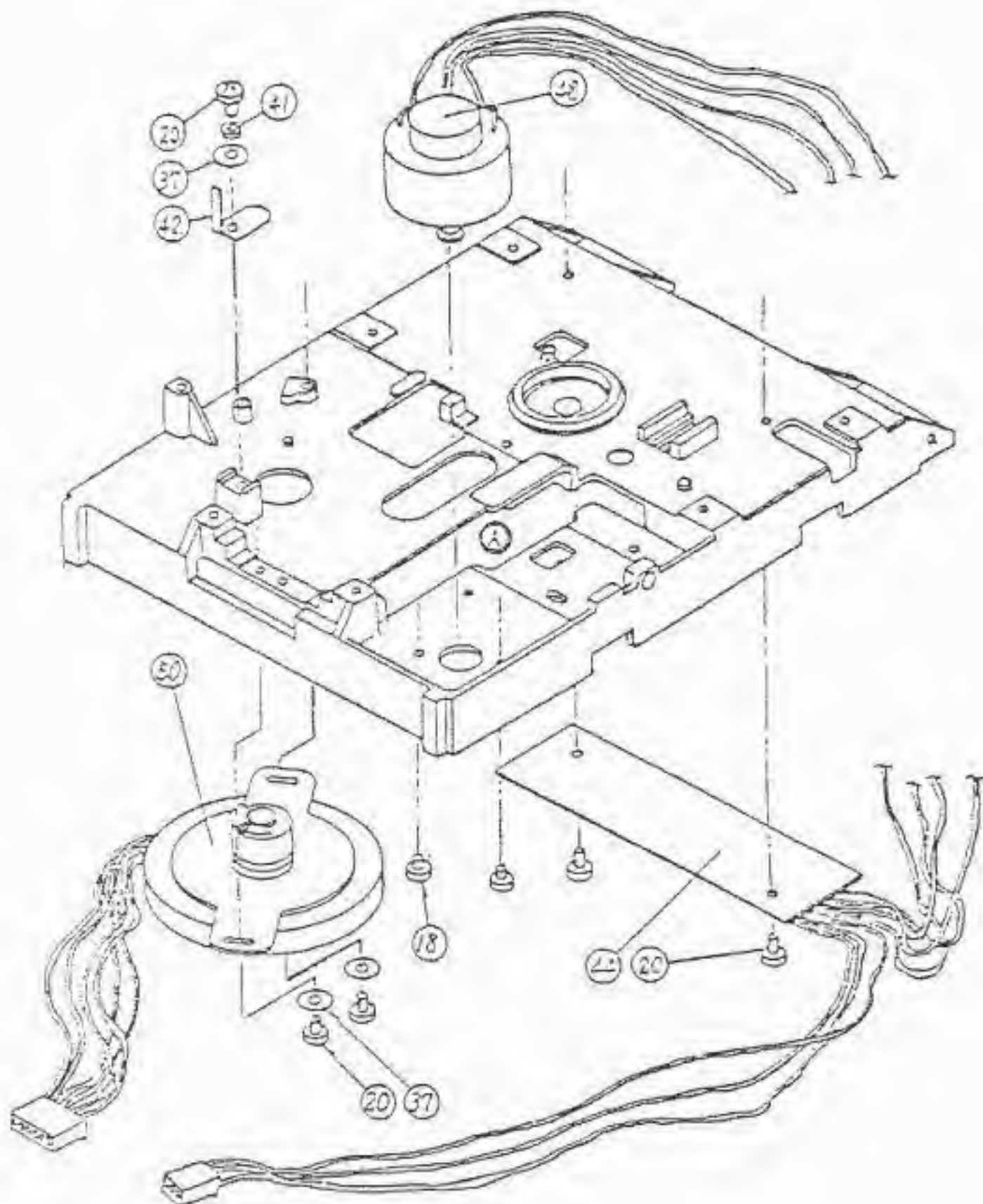
Part	Description
31	LED assembly
43	diskette guide
52	connector housing



- 2.3.9 Secure the D.C. motor from the reverse side of the housing assembly with two screws.
- 2.3.10 Put the motor control PCB into hole 'A' and secure it with two screws.
- 2.3.11 Secure the stepping motor with two screws.
- 2.3.12 Secure the carriage stopper with a screw.
- 2.3.13 Install the connector housing '52' into the hole 'B' and remove through hole 'C'.
- 2.3.14 Secure the two diskette guides '21' and '43' with two screws each.
- 2.3.15 Install the LED holder in the front panel.
- 2.3.16 Insert the LED assembly into the LED holder ring.
- 2.3.17 Install the led into the LED holder, then push the LED holder ring onto the LED holder.
- 2.3.18 Attach the front panel with four flush screws.
- 2.3.19 Secure the eject plate with a screw.
- 2.3.20 Wind the metal band around the tension pulley.
- 2.3.21 Insert the guide shafts into the head assembly. Install the tension pullet as shown in figure 8
- 2.3.22 Secure the guide shaft keepers by two screws each.
- 2.3.23 Wind the metal band around the stepper pulley and secure it with a screw to the stepper motor pulley.
- 2.3.24 Hook the spring to the tension pulley and install unit in the slot in the housing assembly.
- 2.3.25 Hook the opposite end of the spring to the housing assembly.
- 2.3.26 Fasten cable ties to the cables.
- 2.3.27 Secure the cable clamp with a screw as shown in FIG 8.
- 2.3.28 Secure the arm support assembly with a screw to the hub support.
- 2.3.29 Insert the hub shaft into the hub, the hub spring, the collet assy, the thrust washer, the collar, the clamp spring and two collars.
- 2.3.30 Insert the hub shaft into the frame and the hub support and fasten it at the E-washer.
- 2.3.31 Set the door assembly and the door spring at the hub frame.
- 2.3.32 Secure the pad plate assembly with a screw to the frame at the location shown in FIG 9
- 2.3.33 Secure the two hinge springs with two screws each.

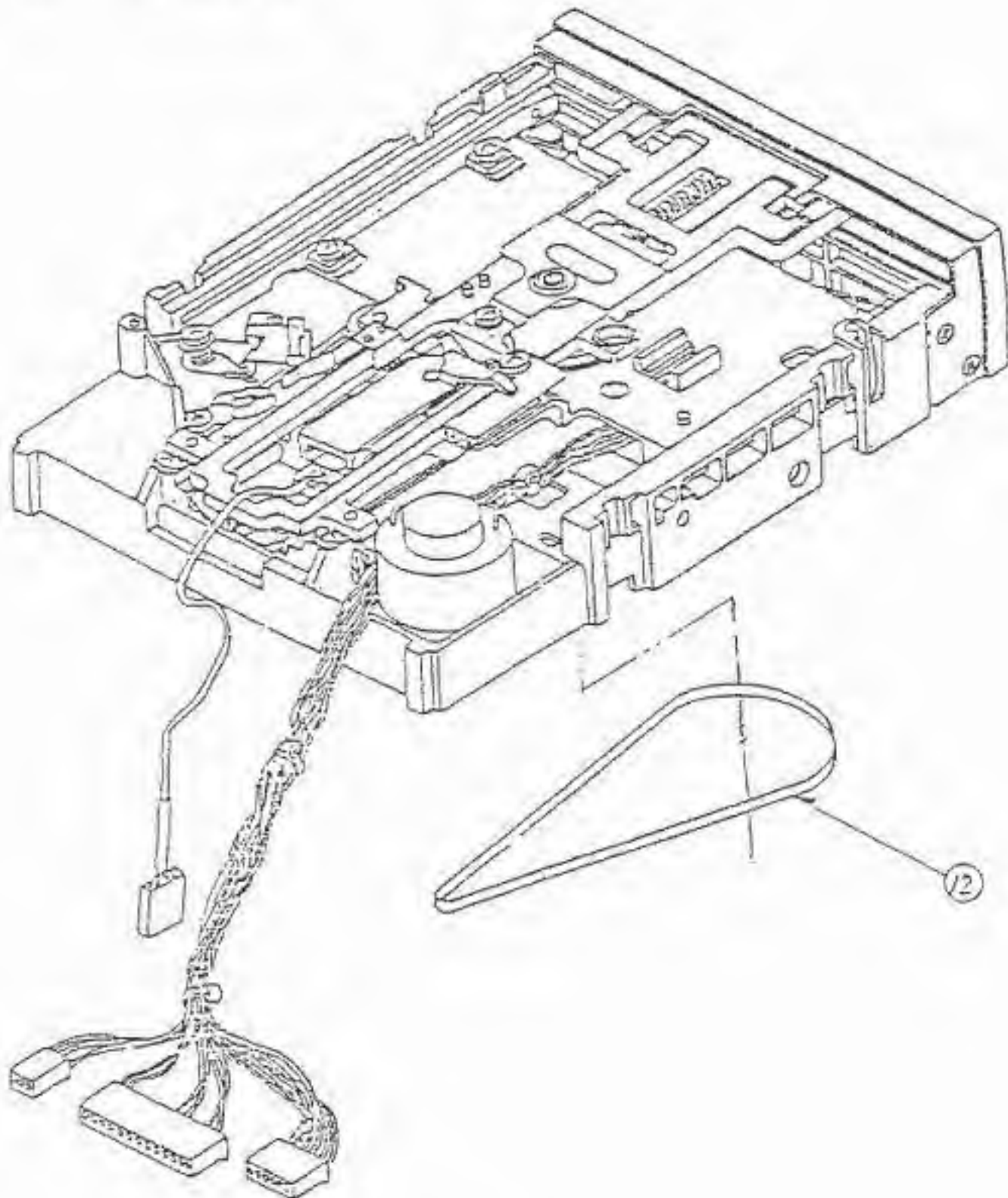
FIG. 5

Part	Description
18	binder screw
20	binder screw
37	washer
41	spring washer
42	carriage stopper
44	motor control PCB
50	stepping motor assembly

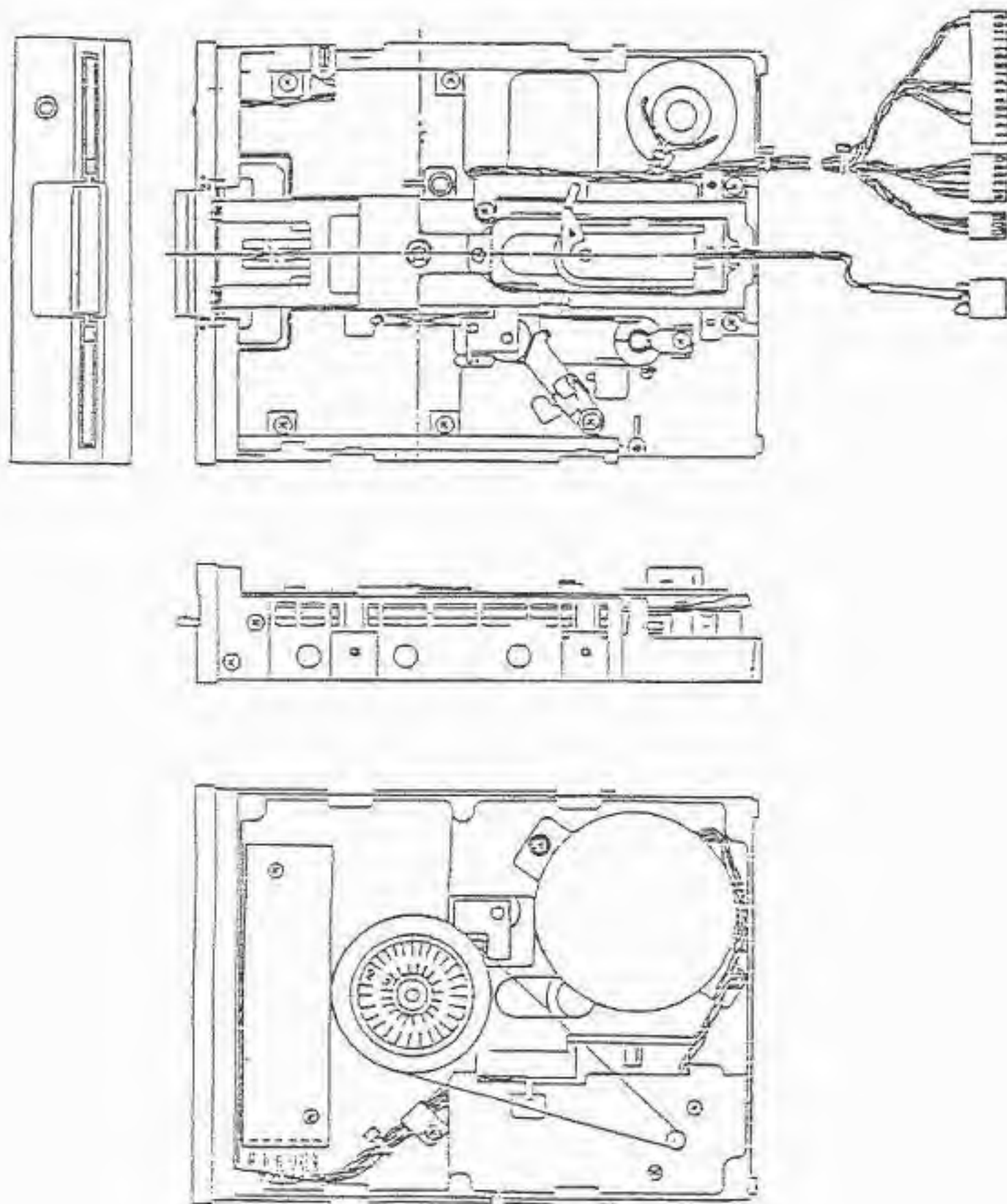


- 2.3.36 Place the belt over the D.C. motor pulley and partially on the spindle pulley.
- 2.3.37 By turning the spindle pulley the rest of the belt will seat completely on the pulley.
- 2.3.38 FIG 10

Part	Description
12	drive belt



2.3.39 FIG 11; Completed Drive Mechanism



3.1 Description

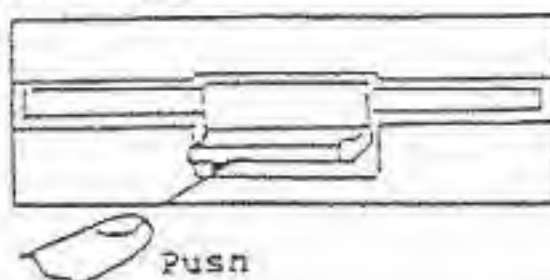
Since the disk drive is placed under direct control of the interface and power supply, no special procedure is required for starting and operation.

3.2 Operating procedure

Make sure that the power supply and I/O connector are connected, then insert the disk in accordance with the following procedure.

3.2.1 Inserting the media

- a) Apply DC voltage to the drive.
- b) Open the front door.



- c) With the index hole and write protect notch being placed on the left side of the jacket, push the media in, when the media is fully inserted the locking action can be felt.
- d) Push the door downward and close the door so that it is locked firmly

3.2.2 Extracting the media

- a) Open the front door. The media will pop out automatically to a position where you can extract it easily.
- b) For protection of the recorded data, the media should always be stored in its envelope.
- c) Close the door of the drive.

3.3 Media handling procedure

Since the media has been subjected to a write operation it naturally contains information, adequate attention must be paid to its handling.

In order to extend the life of the media and eliminate the causes of errors, it is best to take the following steps:

- a) When writing something on the jacket label of the media, do not use a ball point pen or pencil, use felt-tipped pens.
- b) Do not hold the edges of the media with paper clips or the like.
- c) Do not touch the media exposed in the slot of the jacket.
- d) Do not attempt to clean the media.
- e) Do not keep the media in the areas where there is a strong magnetic field.
- f) The diskette should be kept in its jacket.
- g) Special care should be exercised so that the media is kept free from liquid, dust, metal particles, etc.
- h) Take care not to exceed the following environmental conditions:

Temperature	10 to 51°C
Relative humidity	8 to 80 %

3.4 Seek error

Few seek errors will be experienced due to the low stepping rate, less than 12 msec/track. In case of a seek error, however, recalibration of track position can be performed. This can be done by repeatedly stepping the head towards track 0 until track 0 status is detected.

3.5 Write error

In order to check the quality of the data, perform a read-after-write operation. When data can not be read, rewrite that track and sector once again.

When data can not be read after four such operations track is defective.

3.6 Read error

What happens quite often when performing a read operation is a soft error. A soft error is defined to be a read error which is recoverable by making ten or less read operations. However, in the event no recovery is made in ten operations, move one step from the track in the same direction as the previous step, then return one step. If this fails to read the data, this error is unrecoverable.

3.7 Description

Periodic maintenance is indispensable so that this type of peripheral equipment operates properly. It is particularly important to periodically clean the head and check the load pad. Repairs and adjustments should be made in accordance with the procedures below.

3.8 Head Cleaning

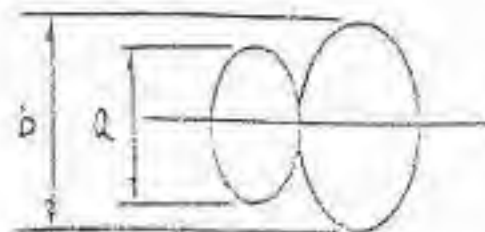
Check for excessive dust or magnetic oxide on the load pad. With the door open (do not move upper arm greater than what is provided by opening the front door) clean head with lint free cotton cloth or 'Q-tip' in 91% isopropyl alcohol. Wipe the head carefully to remove any dust and/or oxide.

3.9 Adjustment procedure

In case of a malfunction or parts replacement, make the following adjustments. In order to maintain the interchangeability of the media between drives it is desirable check each drive against a master alignment diskette.

3.9.1 Track adjustment (radial track)

- a) Connect I/O cable and restore the head to track 00.
- b) Insert a 48tpi alignment diskette and close the door.
- c) Connect two oscilloscope probes to pin 1 and pin 14 of UH6 (592), set oscilloscope to analog mode at 50mV/cm and 200 msec/div.
- d) Load the head and allow it to seek to track 16, check for cats eye wave form. When the cats eye lobe ratio is 70% or less, loosen the stepping motor mounting screws, turn the stepping motor to obtain the lobe ratio of 90% or less.
- e) After allowing the head to track 34, return it to track 16 and recheck the cats eye. If the ratio is correct tighten the stepping motor screws.



$$\frac{a}{b} \times 100 \geq 70$$

Cats eye lobe ratio

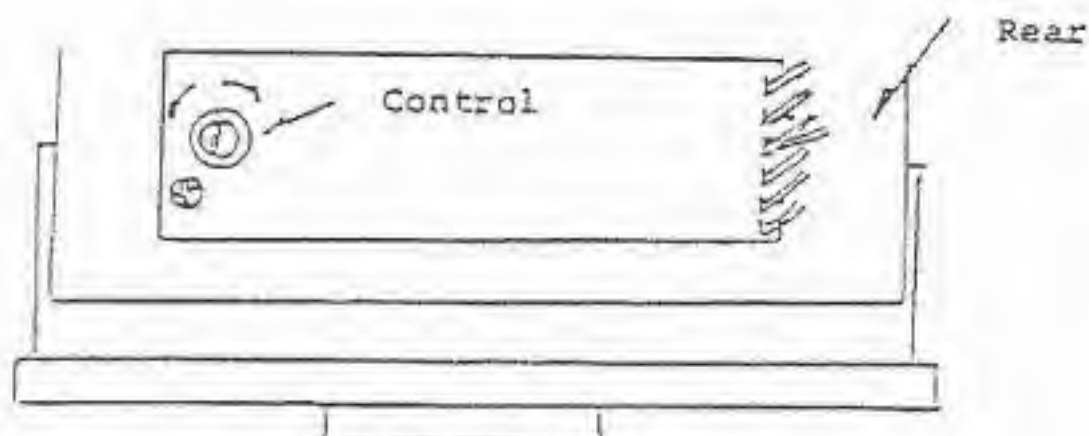
3.9.2 Track 00 adjustment

The drive is not provided with a track 00 sensor. To adjust, let the head over step in the track 00 direction and adjust the limiter position to obtain a clearance less than 0.25mm (0.01inches).



3.9.3 Speed control

Turn the variable resistor on the motor control board until the tachometer disk on the spindle pulley appears stationary when viewed with a fluorescent lamp.



QUANTITY REQD PER PART / DASH NO.		ITEM	PART NUMBER	DESCRIPTION	REF DES	QTY	NOTES
		1	B 1540050	PC BOARD 238 x 155 x 1.6t			GLASS EPOXY. G-10
		2					
		3					
		4					
		5	C 1540049-01	SCHEMATIC DIAGRAM			USED LOGIC ARRAY. FCC (UL)
		7					
		8					
		9					
		10					
		11					
		12	B 901435-01	IC MPS 6502 CPU	UC4		
		13	901437-01	MPS 6522 VIA	UC2, UC3		
		14	901229-03	2364-197 ROM	UB4		8E000 ~ 8FFF
		15	325302-01	2364-130 ROM	UB3		8C000 ~ 8DFFF
		16	325572-01	LOGIC ARRAY 40 PIN DIP	UC1		
		17	901521-01	74LS00 2-NAND	UC6		
		18	901521-17	74LS42 DEC.	UC7		
		19	901522-01	7417 BUFFER	UD2		
		20	901521-32	74LS86 2-EX-OR	UD3		
		21	901522-06	7406 INV. BUF.	UB1, UD1		
		22	901521-02	74LS04 INV.	UC5		
		23	901521-30	74LS14 SCH. INV.	UA1		
		24	901521-26	74LS193 4-BIT. COU.	UE6		
		25	901521-54	74LS197	UD5		
		26	901522-03	74177	UD5		SUBSTITUTE FOR ITEM 25.
		27	901510-01	9602	UD4		
		28	901523-04	LM311	UE4		
		29	B 901523-08	IC NE592	UF3, UF4		
		30	B 325502-03	IC TMH2016P RAM	UB2		
		31	B 325502-01	IC M58725P RAM	UB2		SUBSTITUTE FOR ITEM 30.
		32	B 901522-30	IC 7407	UD2		SUBSTITUTE FOR ITEM 19.
		33					
		34					
		35					
		36					
		37					

commodore

TITLE: PCB ASSY. VIC-1541

DATE: 12/77
SIZE: B
REV: C
SHIT: 2/8

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QUANTITY REQD PER PART / DASH NO.				ITEM	Q	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
				112	B	900301-04	CAPACITOR ELECT. 220µF/10V	C13		
				113		900101-45	6800µF/25V	C17		
				114		900101-32	4700µF/16V	C16		
				2115		900100-33	47µF/16V	C2,C5		
				2116		900100-32	ELECT. 1µF/25V	C1,C4		
				1117		900402-15	TANTALIUM 10µF/25V	C15		
				1118		900402-11	TANTALIUM 3.3µF/25V	C44		
				1119		900010-52	CERAMIC 150µF/50V	C31		±5%
				2120		-53	330µF/50V	C32,C36		±5%
				3121		-54	680µF/50V	C45,C33,C34		±5%
				1122		-25	1000µF/50V	C41		
				2123		-20	0.1µF/50V	C3,6-10		14,18,19,20,22-30,35,40,43,47,48
				2124		900010-14	CERAMIC 0.022µF/50V	C39,C42		
				1125		900100-40	ELECT. 100µF/16V	C46		
				2126		900402-17	TANTALIUM 0.47µF/25V	C37,C38		
				1127		-08	4.7µF/25V	C21		
				1128		900402-14	TANTALIUM 1µF/16V	C11		
				1129	B	900465-02	CAPACITOR CERAMIC 0.033µF/25V	C12		
				130						
				131						
				132						
				133						
				1134	B	901550-56	RESISTOR CARBON 1/4W ±5% 47Ω	R1		
				2135	B	901550-108	RESISTOR CARBON 1/4W ±5% 360Ω	R14,R24		
				4136		-89	150Ω	R17,R45,R46		
				4137		-52	220Ω	R4,16,26,55		
				2138		-14	330Ω	R3,R23		
				6139		-58	470Ω	R20,22,30,27,38,41		
				1140		-38	510Ω	R27		
				6141		-31	680Ω	R21,R2,47-50		
				6142		-01	1KΩ	R2,5,6,7,8,43		
				3143		-53	2KΩ	R9,10,26		
				6144		-18	2.2KΩ	R11,19,21,32-34		
				1145		-69	1.5KΩ	R40		
				4146		-12	22KΩ	R12,35,32,52		
				2147	B	901550-07	RESISTOR CARBON 1/4W ±5% 100KΩ	R25,R44		
				143						

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PCB ASSY. VIC-1541

DATE: 11/12/82

ENGR: J. J. Kucuk

APPROV: T. H.

DATE: 12/1/82

SIZE: B

REV: C

DATE: 5/8

QUANTITY REQD PER PART / DASH NO.				QTY	Q	PART NUMBER	DESCRIPTION	REF DES	QTY	NOTES
1	149	B	901751-43	RESISTOR METAL OXIDE 1/4W 11% 91Ω	R51					
1	150	B	-18	100Ω	R28					
1	151	B	-44	150Ω	R29					
2	152	B	901751-45	RESISTOR METAL OXIDE 1/4W 11% 91KΩ	R22, R24					
	153									
	154									
	155									
	156									
	157									
10	158	B	325563-01	FERRITE BEAD	L2-7, 13-16					
5	159	B	903025-01	FERRITE BEAD	L2-7, 13-16					SUBSTITUTE FOR ITEM 158.
	160									
	161									
	162									
2	163	B	4022048	SHIELD BOX						
2	164	B	4022047	SHIELD CAP						
2	165	B	1540023	HEAT SINK 70-3						
1	166	B	1540011	HEAT SINK REGULATOR						
1	167	B	904907-01	COMPOUND THER FOR HEAT SINK						
	168									
	169									
	170									
	171									
4	172	B	325541-05	SCREW PAN HEAD / EXT TIGHT WASHER M3-12						
2	173	B	905655-03	EXTERNAL TIGHT WASHER M3						
4	174	B	905960-03	NUT HEX. M3						
	175									
	176									
4	177	B	905477-02	TUBING VINYL 3.5 DIA X 5 MM						
	178									
	179									
	180									
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	182									
	183									
	184									
	185									

commodore

PCB ASSY VIC-1541

DATE: 1/16/72
DRAWN BY: J. Tokuda
CHKD:

ENGR: 10
APPR: 17.7

SIZE: B

REV: C
1540048

SHT: 6/B

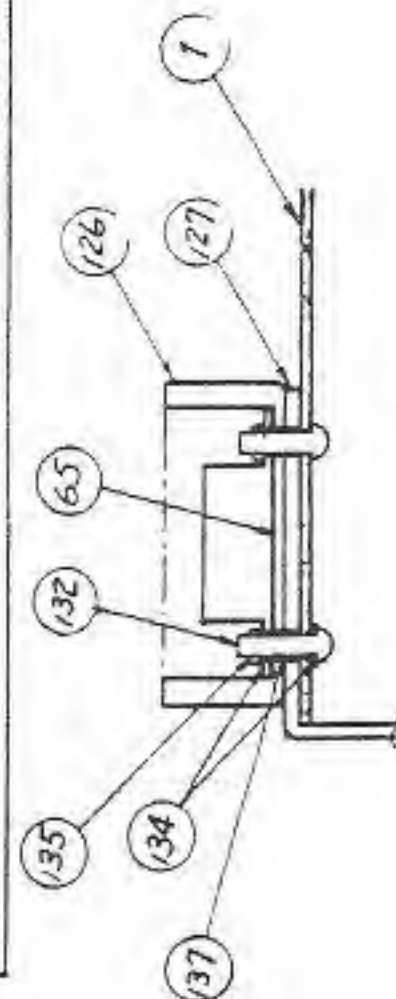
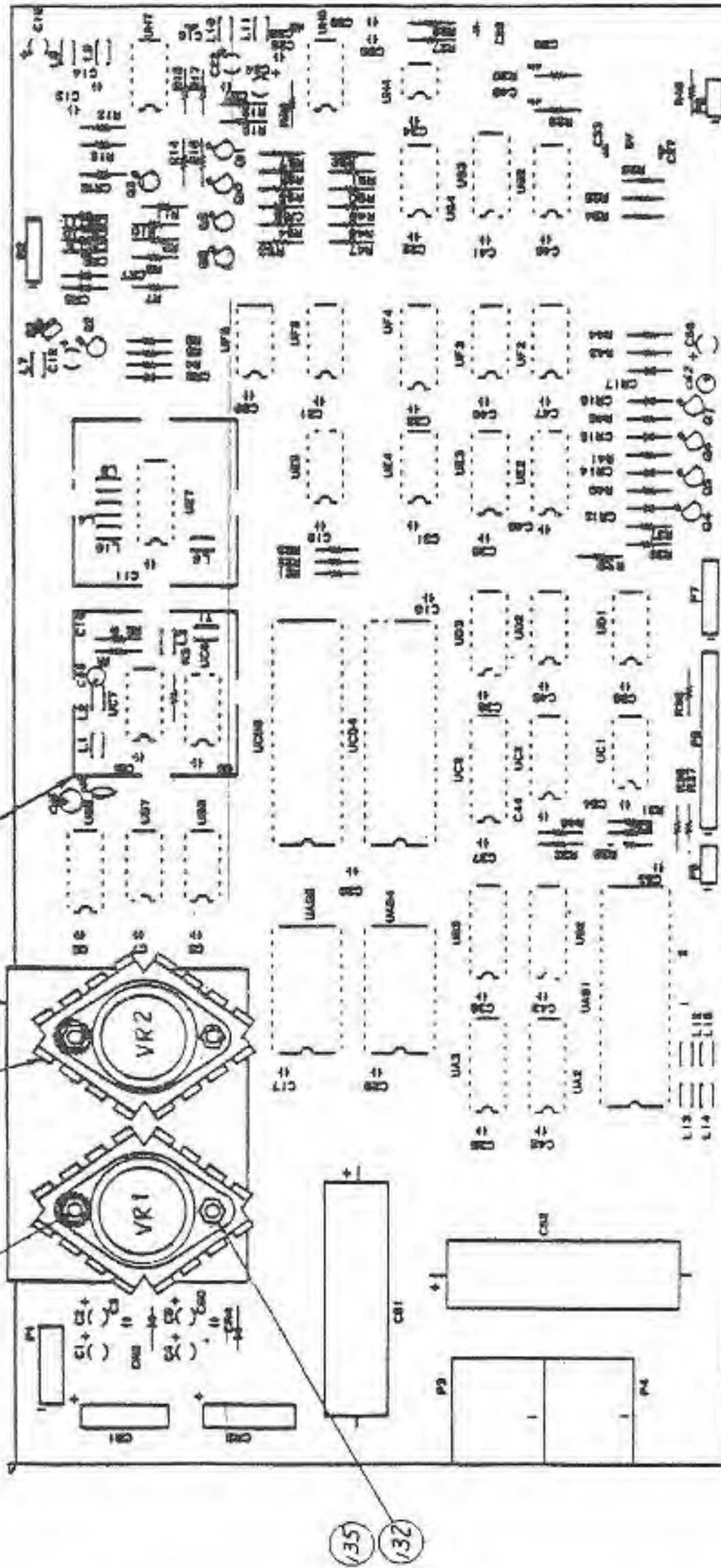
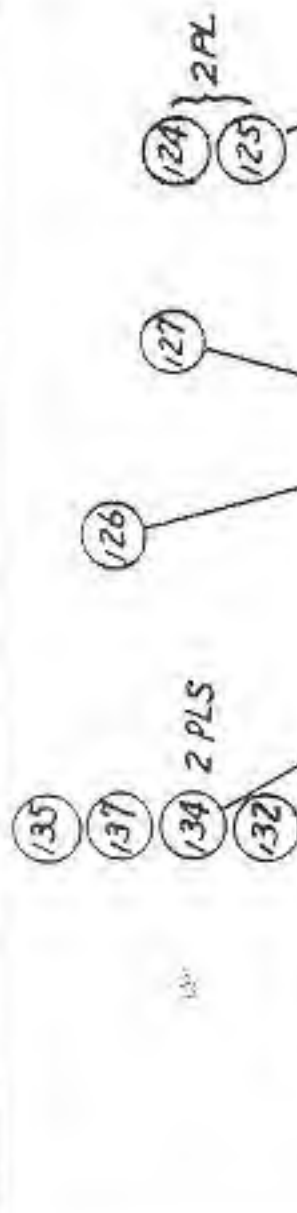
QUANTITY REQD PER PART / DASH NO.		QTY		PART NUMBER	DESCRIPTION	REF. DES	QTY	NOTES
03	1	1	1	C	P.C. BOARD 315x155x1.66t			MTL: GLASS EPOXY 9-10
		1	1					
		3	3					
04	1	4	4	C	SCHEMATIC DIAGRAM			
1	1	6	6	B	IC 2364-197 ROM	UAB5		\$E000 ~ \$FFF
1	1	2	2	B	IC MPS 6502 CPU	UCD5		
1	1	8	8	B	2364-130 ROM	UAB4		\$C000 ~ \$DFFF
1	1	9	9	B	2364-131 ROM	UAB5		\$E000 ~ \$FFFF
2	2	10	10	B	MPS 6522 VIA	UAB1,UCD4		
4	4	11	11	B	MPS 2114 RAM	UA2,3,UB2,3		
2	2	12	12	B	74LS00 2-NAND	UB7,UF5		
1	1	13	13	B	74LS02 2-NOR	UE5		
1	1	14	14	B	74LS04 INV.	UB6		
1	1	15	15	B	74LS10 3-NAND	UF3		
1	1	16	16	B	74LS14 SCH. INV.	UC1		
1	1	17	17	B	74LS42 DEC.	UB8		
2	2	18	18	B	74LS74 D-FF	UE4,UF6		
1	1	19	19	B	74LS86 2-EX-OR	UG2		
1	1	20	20	B	74LS133 13-NAND	UC2		
1	1	21	21	B	74LS139 Dem. P	UE2		
1	1	22	22	B	74LS164 8 Bit Shift Reg	UD2		
1	1	23	23	B	74LS165 8 Bit Shift Reg	UD3		
1	1	24	24	B	74LS191 4 Bit Count.	UE3		
2	2	25	25	B	74LS193 4 Bit Count.	UE7,UF4		
1	1	26	26	B	74LS245 Bus Transceiver	UC3		
1	1	27	27	B	7402	UC7		
2	2	28	28	B	7406 INV. OC.	UD1,UF2		
1	1	29	29	B	74177	UC6		
1	1	30	30	B	9602	UG3		
1	1	31	31	B	LM311	UH4		
2	2	32	32	B	NE592	UH5,UH7		
1	1	33	33	B	7417	UG4		
5	5	34	34	B	74LS197	UC6		
5	5	35	35	B	2364-186 ROM	UAB5		
5	5	36	36	B	2364-173 ROM	UAB5		
SUBSTITUTION FOR ITEM 29								
\$E000 ~ \$FFFF SUB. FOR ITEM 6.								
\$E000 ~ \$FFFF SUB. FOR ITEM 6.								
\$E000 ~ \$FFFF SUB. FOR ITEM 6.								
DATE 1/1								
DATE 1/1								
B 1540001-2 or 7								

c b m ENGINEERING OSAKA JAPAN		TITLE PCB ASSY VIC-1540		DRAWN BY: CHNO: D. Johnson 8/21/81		DATE 1/1		DATE 1/1		APPR.	
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QUANTITY REQD PER PART / DASH NO.			QTY	PART NUMBER	DESCRIPTION	REF. DES	QTY	NOTES
			01	902671	TRANSISTOR NPN 2SC945	Q2, Q3		
			03	902693-01	NPN 2SC1815	Q2, Q3		SUBSTITUTION FOR ITEM 37
			04	902679	NPN 2SD467	Q4-Q7		
			05	902682	NPN 2SC2120	Q4-Q7		SUBSTITUTION FOR ITEM 39
			06	902720	PNP 2SA673	Q1		
			07	902717	PNP 2SA733	Q8-Q11		
			08	902744-01	TRANSISTOR PNP 2SA1015	Q8-Q11		SUBSTITUTION FOR ITEM 42
			09	901522-30	IC 7407	UG4		SUBSTITUTION FOR ITEM 33
			10					
			11	900750-02	DIODE, SIGNAL IN4002	CR2, 4, 13-16		
			12	900850-05	SIGNAL WG713C	CR6-11, 17, 18		
			13	900850-01	SIGNAL IN4148	CR6-11, 17, 18		SUBSTITUTION FOR ITEM 47
			14	325505-01	GENER 3.3V 500mW ±5%	CR5		HZ3C-2
			15	325505-02	3.3V 500mW ±5%	CR5		HZ4A-1 SUB. FOR ITEM 49
			16	900948-06	3.3V 500mW ±5%	CR5		IN3226B SUB. FOR ITEM 49
			17	325506-01	5.1V 500mW ±5%	CR12		HZ5C-2
			18	900948-11	GENER 5.1V 500mW ±5%	CR12		IN5231 SUB. FOR ITEM 52
			19	900756-01	BRIDGE 1.5A 50V	CR1		KBP-005
			20	900755-02	DIODE, BRIDGE 4A 50V	CR3		KBL-02
			21	900556-02	CRYSTAL 16MHz	Y1		
			22					
			23	325513-01	COIL, INDUCTOR 2.2μH	L1		
			24	325513-02	COIL, INDUCTOR 22μH	L8, L11		
			25	325513-03	COIL, INDUCTOR 100μH	L7, L9, L10		
			26					
			27	901528-04	VOLTAGE REGULATOR 12V 1.5A	VR1		LM340-12
			28	901528-01	VOLTAGE REGULATOR 5V 3A	VR2		LM323
			29	904914	INSULATION MYLAR 70-3			ATTACHED WITH VOLT REGULATOR
			30	325551-01	INSULATION SILICONE 70-3			SUBSTITUTION FOR ITEM 65.
			31					
			32	903361	CONNECTOR, DIN 6PIN	P3, P4		HASHIDENKI TCS4460-01-101
			33					
			34	904150-06	SOCKET IC LOW PRO. 40PIN			
			35	904153-03	SOCKET IC LOW PRO. 24PIN			
			36					
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C b m ENGINEERING OSAKA JAPAN			TITLE: PCB ASSY VIC-1540		DRAWN BY: C b m		DATE: 1/1	DATE: 1/1
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REVISIONS

LTR	ZONE	DESCRIPTION	DATE	APPROVED
		SEE SHEET 1		1.7



C b m		O S A K A J A P A N	
PCB ASSY.		VIC-1540	
SIZE	B	REV	E
SCALE 1/8" = 1"		SHEET 6 OF 7	
DRAWN BY:	I. Takahashi	DATE	9/14/81
CHECKED BY:		DATE	
DESIGNED BY:		DATE	
APPROVED BY:		DATE	
USED ON	VIC-1540	HEAT SINK	
MATERIAL:	VIC-1540		
FINISH:	VIC-1540		

PART NO.	DESCRIPTION	A	B	C	D	E	F	G	H	REVISION	DATE	BY	CHKD	DATE	SIZE	SHEET
1540002-01	POWER SUPPLY ASSY VIC-1540 UL															
		A	7/21/81							PRODUCTION RELEASE						67
		B								CHANGED FILTER POWER CONNECTOR FOR CSA (ITEM 24 WAS ITEM 23)						77
		C	8/24/82							CHANGED FILTER POWER CONNECTOR FOR FCC (ITEM 25 WAS ITEM 23)						77
		D	9/12/82							CHANGED ACCESSORY OF TRANSFORMER						87
		E	9/12/82							CHANGED SCREW TO M3-6 FROM M3-8.						87
		F	12/7/82							ADDED DASH 06 THRU 10 AND ITEM 21.						77
										ADDED ITEM 8, 9 AND 63.						77
										ADDED SHEET 5 OF 5.						77
		G	2/8/83							REVISED PER ECO 830060						90
		H	3/5/83							REVISED PER ECO 830101						90

VIC-1541 UL

-06

4. NO CHANGE QTY FOR ITEM 54 IF USED ITEM 6 OR 7.

3. USE ONLY WHEN USED ITEM B OR 9.

2. IF ITEM 8 OR 9 ARE USED THEN QTY FOR ITEM 54 WILL CHANGE FROM 7 TO 9 PCS AND USED WITH ITEM 63.

1. SHEET 4 & 5 OF 5 ARE D-SIZE

ASSY DWG.

NOTES.

c b m	ENGINEERING	TITLE	DRAWN BY	DATE	DATE	SIZE	SHEET
OSAKA JAPAN	POWER SUPPLY ASSY VIC-1540	Y. IMAI	Y. IMAI	7/21/81	1/1	B	1540002-1 of 5
		CHKD	CHKD	1/1	1/1		

QUANTITY REQD PER PART / DASH NO.		QTY	PART NUMBER	DESCRIPTION	REF. DES	NOTES
06	01	37				
		38				
		39				
1	1	40	B 200017 -03	LEAD WIRE (BLACK)		1015 AWG-18 L 150MM
1	1	41	B 200017 -04	LEAD WIRE (BLACK)		1015 AWG-18 L 80MM
		42				
		43				
1	1	44	B 1540010	GROUND CABLE ASSY		
		45				
		46				
7	7	47	B 905476 -02	TUBING SHRINCABLE		$\phi 5 \times 20$
1	1	48	B 905476 -04	TUBING SHRINCABLE		$\phi 4 \times 40$
		49				
		50				
		51				
2	2	52	B 906803-02	SCREW FLAT HEAD M3X8		FILTER CONNECTOR (2)
		53				
7	7	54	B 325541-02	SCREW PAN HEAD M3X6 W/EXT	TOOTH WASHER	PCB (5), SEE NOTE 2
		55				
4	4	56	B 906610-03	SCREW PAN HEAD NO. 6-32 UNC L10MM		FLOPPY DISK (4)
2	2	57	B 325542-02	SCREW PAN HEAD M4X6 W/EXT	TOOTH WASHER	GROUND (2)
		58				
		59				
		60				
		61				
		62				
2	2	63	B 1540051	METAL L-ANGLE		SEE NOTE 2
		64				
		65				
		66				
		67				
		68				
		69				
		70				
		71				
		72				
c b m ENGINEERING OSAKA JAPAN		TITLE: POWER SUPPLY ASSY VIC-1540		DRAWN BY: Y. IMAGAWA	DATE: 7/1/81	DATE: 7/1/81
				CHKD: T. Takase	DATE: 8/24/81	DATE: 8/24/81
				APPR:	DATE: 1/1	DATE: 1/1
				SIZE: B		SIZE: B
				1540002-		1540002-
				3 of 5		3 of 5

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